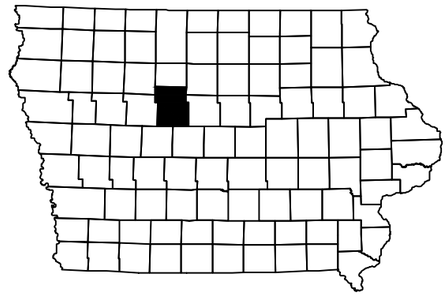
IOWA DEPARTMENT OF NATURAL RESOURCES

CONSTRUCTION DOCUMENTS FOR BRUSHY CREEK STATE PARK EQUESTRIAN BRIDGE PROJECT WEBSTER COUNTY, IOWA

DNR PROJECT #13-02-94-03

IOWA ONE CALL
1-800-292-8989 | 811
www.iowaonecall.com



LICENSED PROFESSIONAL ENGINEER
BRETT A. JOHNSON
13653
IOWA

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

BRETT A. JOHNSON, IOWA REG. NO. 13653 DATE
MY LICENSE RENEWAL DATE IS DECEMBER 31, 2015

PAGES OR SHEETS COVERED BY THIS SEAL:
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3	QUANTITIES & GENERAL NOTES
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DIRECTORY

PROJECT MANAGER		CONSTRUCTION INSPECTOR	
COMPANY	IOWA DEPARTMENT OF NATURAL RESOURCES	COMPANY	IOWA DEPARTMENT OF NATURAL RESOURCES
ADDRESS	502 EAST 9TH STREET	ADDRESS	502 EAST 9TH STREET
CITY,STATE,ZIP	DES MOINES, IA 50319	CITY,STATE,ZIP	DES MOINES, IA 50319
CONTACT	BRETT JOHNSON	CONTACT	DON LABATE
TELEPHONE	515-250-3711	TELEPHONE	515-250-3714
FAX	515-281-8685	FAX	515-281-8685
EMAIL	brett.johnson@dnr.iowa.gov	EMAIL	Don.Labate@dnr.iowa.gov

PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF INSTALLING A NEW PRE-FABRICATED EQUESTRIAN BRIDGE LOCATED AT BRUSHY CREEK STATE PARK IN WEBSTER COUNTY, IOWA.

AUTHORIZATION TO BID

AUTHORIZATION - PARKS | WILDLIFE | FISHERIES | LAW ENFORCEMENT | FORESTRY DATE

ENGINEERING BUREAU CHIEF DATE

CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES
ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034

DNR

COVER SHEET

EQUESTRIAN BRIDGE PROJECT FOR:

BRUSHY CREEK STATE PARK

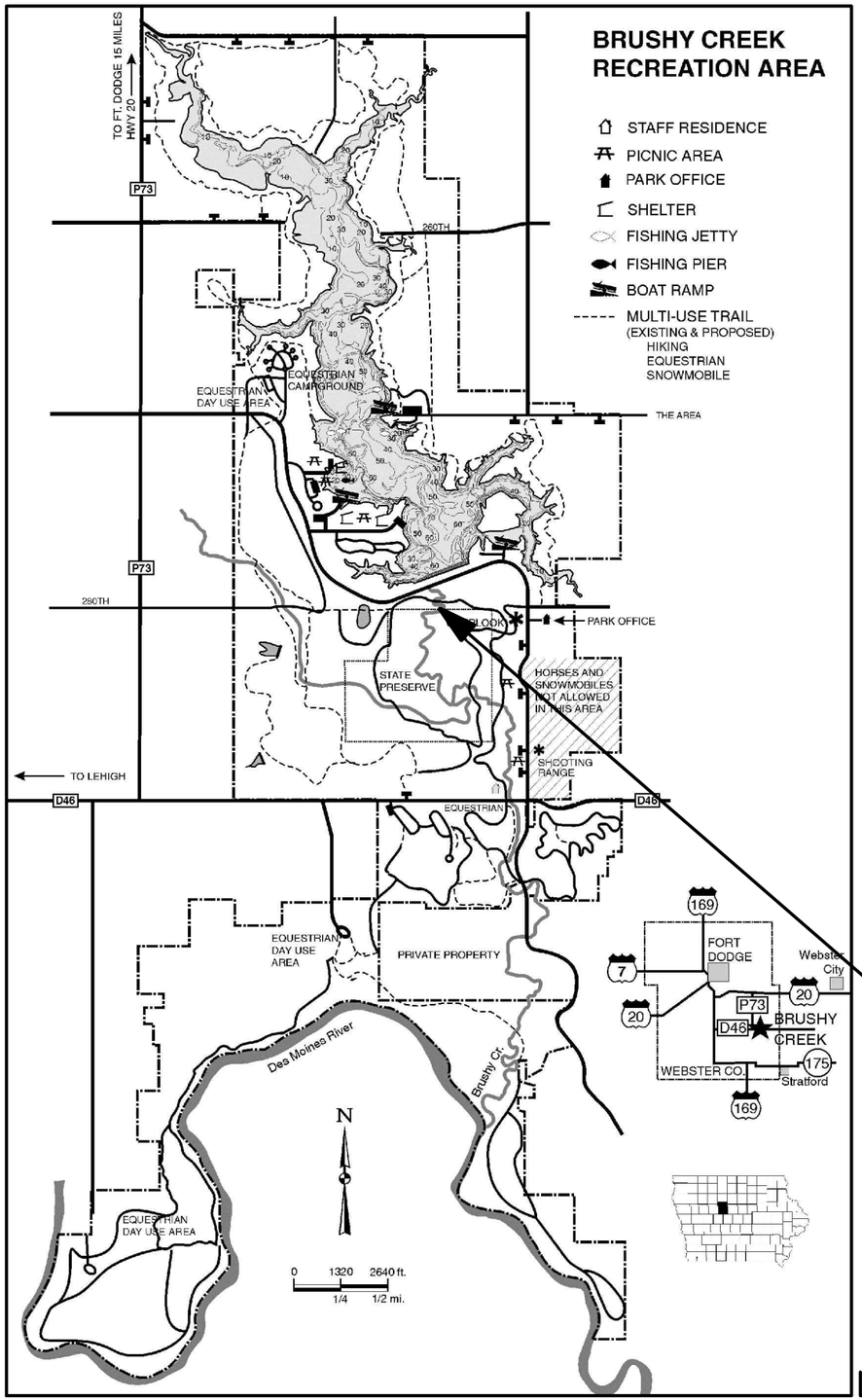
WEBSTER COUNTY, IOWA

NO.	BY DATE	REVISION

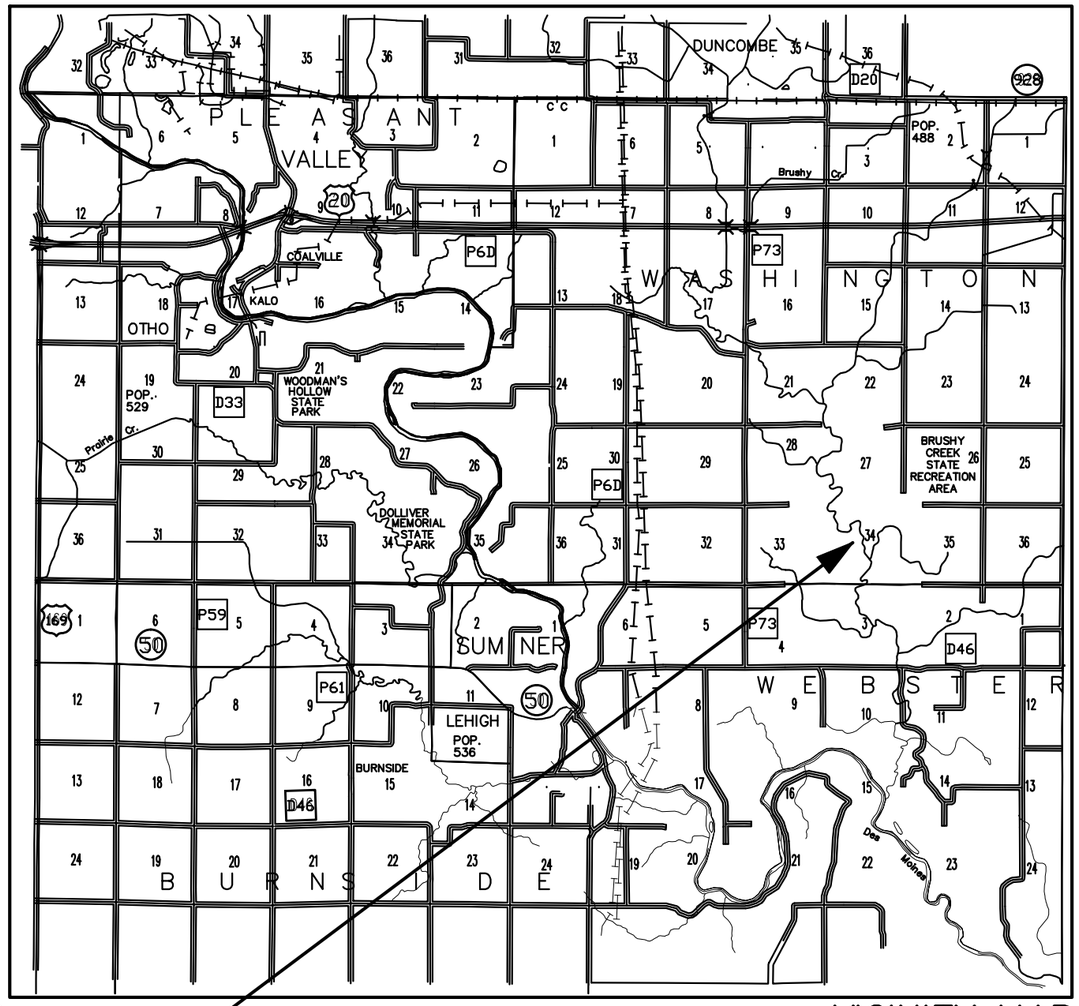
DRAWN BY: PROJECT NUMBER: 13-02-94-03

CHK'D BY: DATE: 3/27/2014

SHEET No: 1



LOCATION MAP



VICINITY MAP

PROJECT LOCATION

CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034

VICINITY MAPS

EQUESTRIAN BRIDGE PROJECT FOR:

BRUSHY CREEK STATE PARK

WEBSTER COUNTY, IOWA

NO.	BY DATE	REVISION

DRAWN BY:

PROJECT NUMBER: 13-02-94-03

CHK'D BY:

DATE: 3/27/2014

SHEET No: 2

ESTIMATED PROJECT QUANTITIES

ITEM NO.	ITEM	UNIT	QUANTITY
1	CLEARING AND GRUBBING	LS	1
2	ACCESS ROUTE	LS	1
3	CLASS 'E' RIPRAP	TONS	15
4	GRADING	LS	1
5	CONTECH CONNECTOR 75' SPANx10' WIDTH EQUESTRIAN BRIDGE (OR EQUIVALENT)	LS	1
6	CONTECH PRECAST ABUTMENT SYSTEM (OR EQUIVALENT)	LS	1
7	CONCRETE BASE WITH TS3x3x¼ GALVANIZED SQUARE TUBULAR FENCE POST	EA	4
8	FENCE RECONSTRUCTION	LS	1
9	SEEDING, FERTILIZING AND MULCHING	LS	1
10	MOBILIZATION	LS	1

ESTIMATE REFERENCE INFORMATION

ITEM NO.	DESCRIPTION
1	CLEARING AND GRUBBING A. CONTRACTOR TO CLEAR AND GRUB THE PROJECT SITE AS NEEDED. COORDINATE WITH DNR INSPECTOR..
2	ACCESS ROUTE A. CONTRACTOR SHALL ACCESS PROJECT SITE IN LOCATIONS SHOWN ON SHEET #5 OR AS APPROVED BY DNR INSPECTOR. B. CONTRACTOR WILL NEED TO ESTABLISH TEMPORARY CROSSING ACROSS DRAINAGE-WAY TO ACCESS PROJECT SITE. IF RIPRAP/ROCK IS BEING USED FOR CROSSING, CONTRACTOR MAY BE ALLOWED TO LEAVE ROCK CROSSING IN PLACE IF IT CAN BE UTILIZED FOR THE EQUESTRIAN TRAIL. COORDINATE WITH DNR INSPECTOR.
3	CLASS 'E' RIPRAP A. CONTRACTOR SHALL INSTALL 15 TONS OF CLASS 'E' RIPRAP 2.4 FEET WIDE AND 2 FEET HIGH FOR A LENGTH OF 56 FEET FOR DRAINAGE UNDER FUTURE TRAIL. B. CONTRACTOR TO INSTALL 56 LF OF GEOTEXTILE FABRIC 4 FEET IN WIDTH ON TOP OF RIPRAP TO MINIMIZE SOIL FILLING VOIDS WITHIN RIPRAP. GEOTEXTILE FABRIC IS TO BE CONSIDERED INCIDENTAL AND PART OF THIS BID ITEM.
4	GRADING A. CONTRACTOR SHALL GRADE THE SITE AS DETAILED IN THE PLANS (C/F=1,455 CY).
5	CONTECH CONNECTOR 75' SPAN x 10' WIDTH EQUESTRIAN BRIDGE (OR EQUIVALENT) A. CONTRACTOR SHALL INSTALL CONTECH CONNECTOR EQUESTRIAN BRIDGE (OR EQUIVALENT) IN THE LOCATION SHOWN ON SHEET #6.
6	CONTECH PRECAST ABUTMENT SYSTEM (OR EQUIVALENT) A. CONTRACTOR SHALL INSTALL CONTECH PRECAST ABUTMENT SYSTEM (OR EQUIVALENT) IN THE LOCATION SHOWN ON SHEET #6. CONTRACTOR CAN ELECT TO INSTALL CAST IN PLACE FOOTINGS FOR ABUTMENT SYSTEM IN LIEU OF PRECAST. IF CAST IN PLACE IS DONE, IT SHALL BE CONSIDERED INCIDENTAL AND PART OF THIS BID ITEM. CAST IN PLACE BACKWALL IS TO BE INCLUDED IN THIS BID ITEM.
7	CONCRETE BASE WITH TS3x3x¼ GALVANIZED SQUARE TUBULAR FENCE POST A. CONTRACTOR TO INSTALL (4) LOCATIONS OF CONCRETE BASE AND TS3x3x¼ FENCE POST FOR FENCE CONNECTION. FENCE POST HEIGHT TO MATCH EXISTING FENCE HEIGHT. SEE DETAIL BELOW AND LOCATIONS ON SHEETS #6 & 7.
8	FENCE RECONSTRUCTION A. CONTRACTOR TO DISASSEMBLE EXISTING FENCE AT CROSSING LOCATION, CUT & REMOVE CONFLICTING CENTER POST AND TOP BRACE FOR BRIDGE CROSSING. RE-INSTALL 10-FOOT FENCE PANELS TO EXISTING FENCE POSTS AND FIELD WELD TO NEW TS3x3x¼x8' FENCE POST IN NEW CONCRETE BASE. CONTRACTOR TO TOUCH UP WITH GALVANIZED PAINT AS NECESSARY.
9	SEEDING, FERTILIZING AND MULCHING A. THE CONTRACTOR SHALL SEED, FERTILIZE AND MULCH ALL DISTURBED AREAS. SEED WITH TYPE 'D' SEED MIXTURE

GENERAL NOTES

1. TWO WEEKS PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL NOTIFY:
   A. IOWA DNR PROJECT MANAGER: BRETT JOHNSON 515-250-3711
   B. DISTRICT INSPECTOR: DON LABATE 515-250-3714

2. THE CONTRACTOR SHALL VERIFY THE EXISTING CONDITIONS PRIOR TO THE START OF CONSTRUCTION AND NOTIFY THE ABOVE MENTIONED CONTACTS OF ANY DISCREPANCIES.

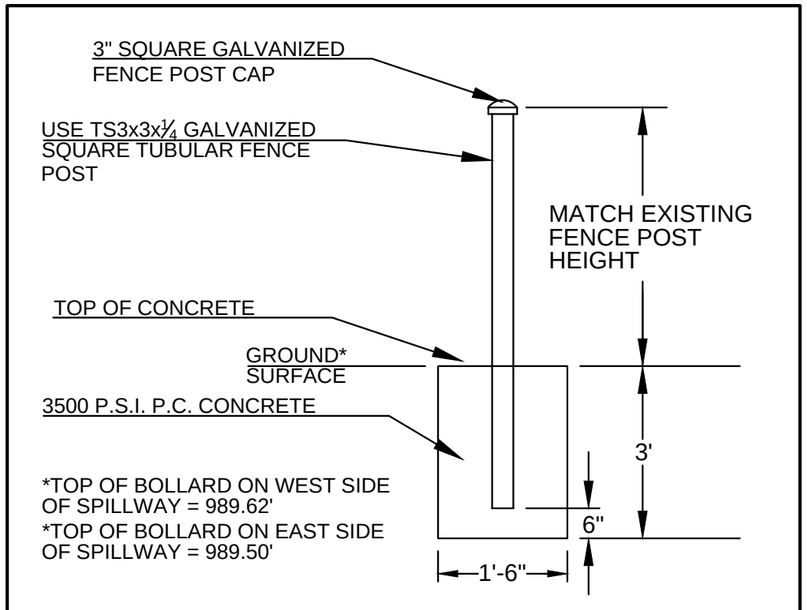
3. THE LOCATIONS AND DIMENSIONS SHOWN ON THE PLANS FOR EXISTING FACILITIES ARE IN ACCORDANCE WITH AVAILABLE INFORMATION WITHOUT UNCOVERING AND MEASURING. THE ENGINEER DOES NOT GUARANTEE THE ACCURACY OF THIS INFORMATION OR THAT ALL EXISTING UNDERGROUND FACILITIES ARE SHOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT ALL PUBLIC AND/OR PRIVATE UTILITIES SERVING THE AREA TO DETERMINE THE PRESENT EXTENT AND LOCATION OF THEIR FACILITIES BEFORE BEGINNING WORK.

4. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES OR STRUCTURES AT THE SITE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROPER UTILITY IMMEDIATELY UPON BREAKING OR DAMAGE TO ANY UTILITY LINE OR APPURTENANCE, OR THE INTERRUPTION OF THEIR SERVICE. HE SHALL NOTIFY THE PROPER UTILITY INVOLVED. IF EXISTING UTILITY LINES ARE ENCOUNTERED THAT CONFLICT IN LOCATION WITH NEW CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED.

5. CONTRACTOR TO PROTECT ALL UTILITY, PAVING, BUILDINGS, ETC. OUTSIDE OF LIMITS OF PROPOSED CONSTRUCTION.

6. PROTECT EXISTING TREES AND VEGETATION OUTSIDE OF CONSTRUCTION CORRIDOR.

7. ANY SPOIL MATERIAL THAT MAY BE GENERATED DURING THE CONSTRUCTION WILL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE HAULED OFF-SITE AND DISPOSED OF BY THE CONTRACTOR APPROPRIATELY. SAID MATERIAL IS CONSIDERED INCIDENTAL TO THE CONTRACT.



CONCRETE BASE & PIPE DETAIL

NOT TO SCALE

CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES
ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034

QUANTITIES & GENERAL NOTES

EQUESTRIAN BRIDGE PROJECT FOR:

BRUSHY CREEK STATE PARK
WEBSTER COUNTY, IOWA

NO.	BY	DATE	REVISION

DRAWN BY:
PROJECT NUMBER: 13-02-94-03
CHK'D BY:
DATE: 3/27/2014
SHEET No: 3

NOTE: CONTROL POINTS ARE AWL PUNCHES IN EXISTING GUARD RAIL

LEGEND

EXISTING/PROPOSED

- ST 8" — STORM SEWER
- E — ELECTRIC LINE
- W 2" — WATER MAIN
- 990 — ELEVATION

0 60 FEET

CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES
ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034

SURVEY CONTROL

EQUESTRIAN BRIDGE PROJECT FOR:

BRUSHY CREEK STATE PARK

WEBSTER COUNTY, IOWA

NO.	BY DATE	REVISION

DRAWN BY:

PROJECT NUMBER: 13-02-94-03

CHK'D BY:

DATE: 3/27/2014

SHEET No: 4

NOTES

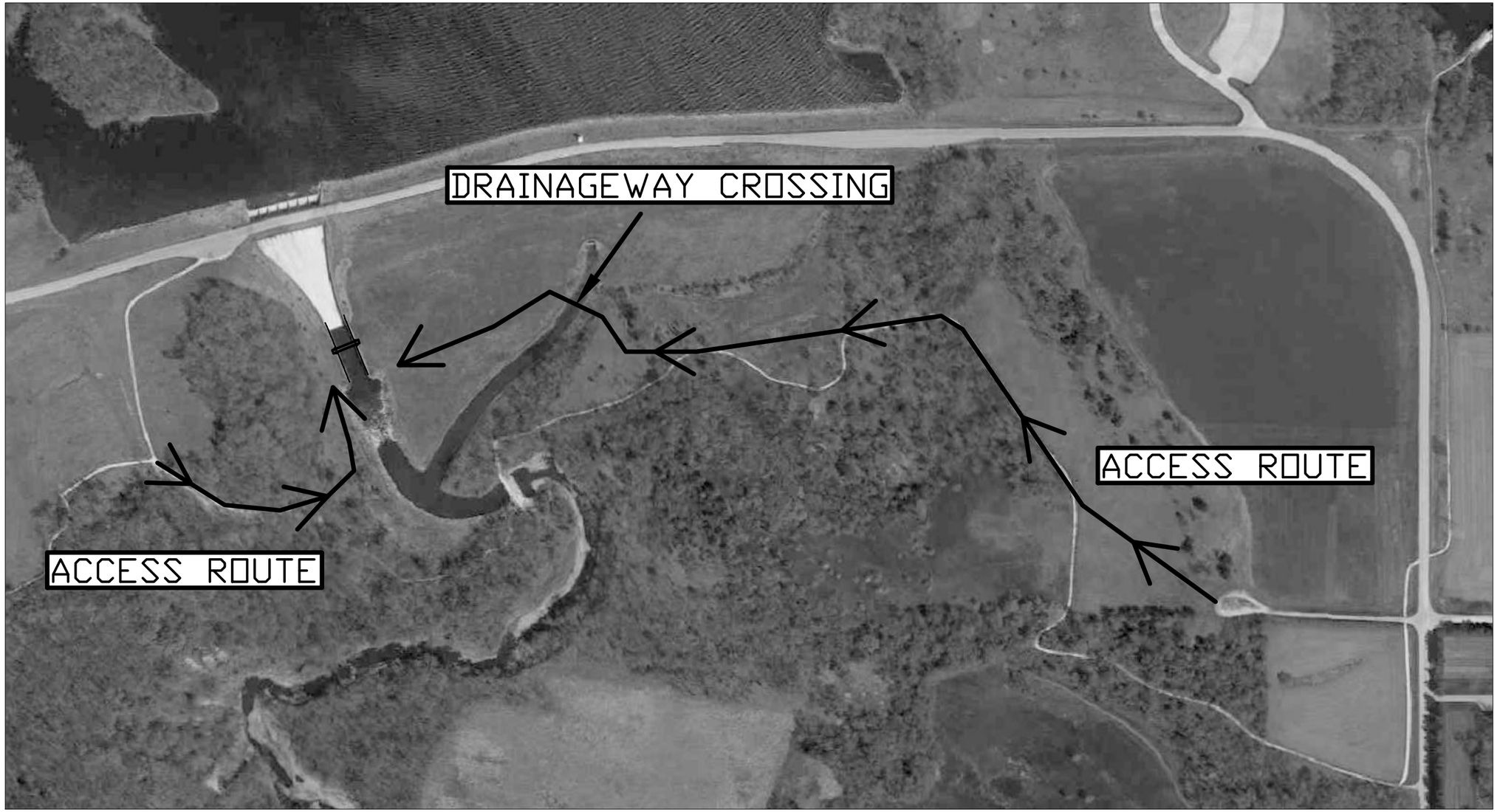
1. ACCESS ROUTE COMING FROM THE EAST TO BE USED FOR TRANSPORTATION OF PROPOSED EQUESTRIAN BRIDGE. ROUTE WILL REQUIRE TO CROSS AN EXISTING DRAINAGEWAY. CONTRACTOR SHALL INSTALL A TEMPORARY CROSSING FOR ACCESS. WHEN CONSTRUCTION IS COMPLETED, CONTRACTOR MAY BE ALLOWED TO LEAVE THE GRANULAR MATERIAL THAT WAS USED FOR THE CROSSING (REMOVE ANY CULVERT PIPES THAT WERE USED). IF THE CROSSING LOCATION THAT WAS USED CAN BE UTILIZED BY THE PROPOSED EQUESTRIAN TRAIL, THE GRANULAR MATERIAL DOES NOT NEED TO BE REMOVED. IF THE CROSSING IS NOT IN A PREFERRED LOCATION FOR THE TRAIL, THE CONTRACTOR WILL BE ASKED TO MOVE THE GRANULAR MATERIAL TO A MORE SUITABLE CROSSING LOCATION ALONG DRAINAGEWAY. CONTRACTOR TO INCLUDE ENOUGH IN TEMPORARY ACCESS BID ITEM FOR THIS POSSIBLE RELOCATION OF GRANULAR MATERIAL.
2. ACCESS ROUTE COMING FROM THE WEST MAY BE USED FOR TRANSPORTAION OF EQUIPMENT AND MATERIALS NEEDED FOR THE CONSTRUCTION ON THE WEST SIDE OF THE SPILLWAY..
3. CONTRACTOR TO RESTORE ACCESS ROUTES UPON COMPLETION (SEEDING/MULCHING/FERTILIZING, ETC).

LEGEND

EXISTING/PROPOSED

- ST 8" — STORM SEWER
- E — ELECTRIC LINE
- W 2" — WATER MAIN
- 990 — 990 — ELEVATION

0 300
FEET



CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES
ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034

ACCESS ROUTE

EQUESTRIAN BRIDGE PROJECT FOR:

BRUSHY CREEK STATE PARK

WEBSTER COUNTY, IOWA

NO.	BY DATE	REVISION

DRAWN BY:
PROJECT NUMBER: 13-02-94-03
CHK'D BY:
DATE: 3/27/2014

SHEET No: 5

LEGEND

EXISTING/PROPOSED

- ST 8" — STORM SEWER
- E — ELECTRIC LINE
- W 2" — WATER MAIN
- 990 / 990 — ELEVATION

0 — 50 FEET

CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034

GRADING PLAN

EQUESTRIAN BRIDGE PROJECT FOR:

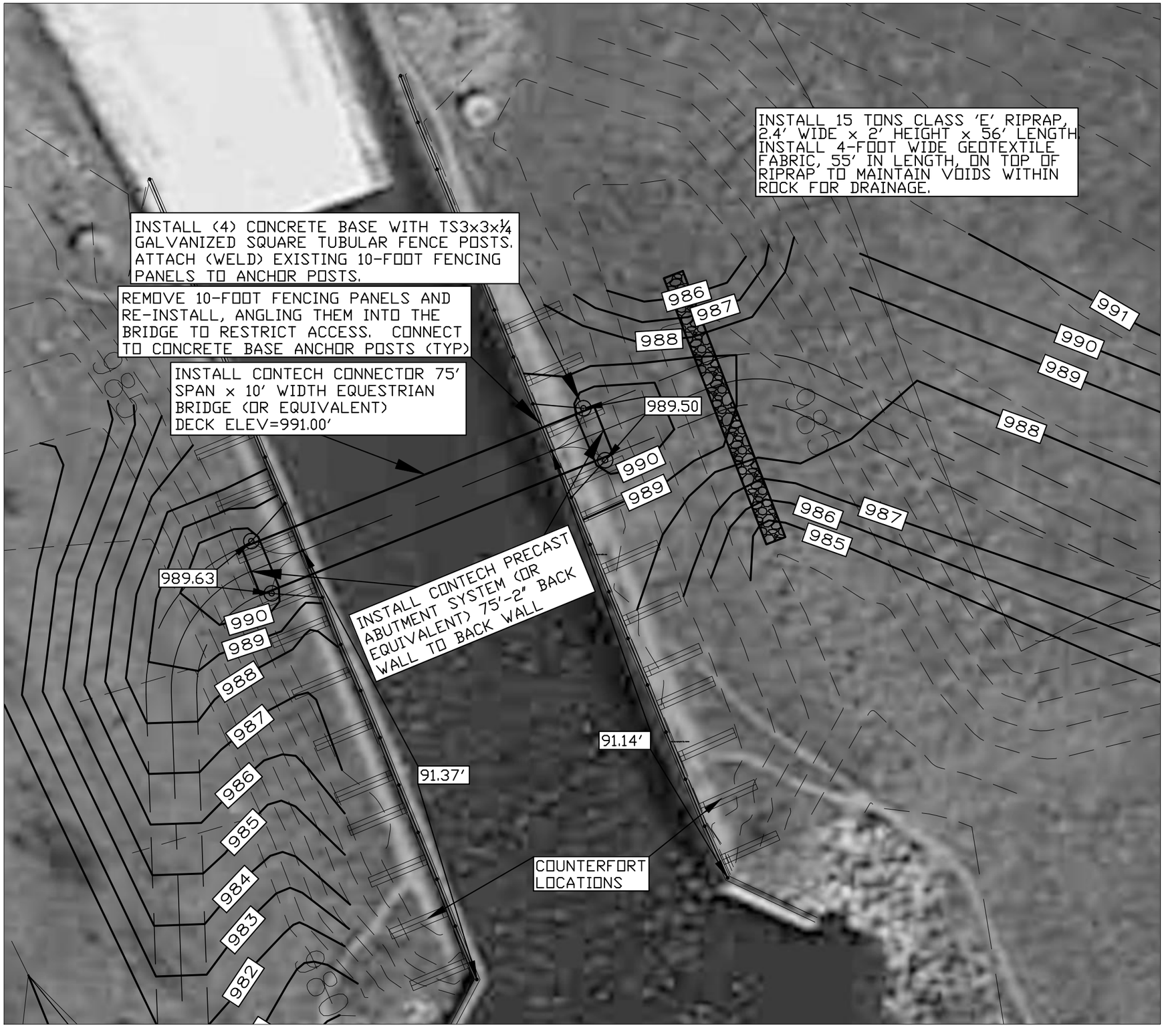
BRUSHY CREEK STATE PARK

WEBSTER COUNTY, IOWA

NO.	BY / DATE	REVISION

DRAWN BY:
PROJECT NUMBER: 13-02-94-03
CHK'D BY:
DATE: 3/27/2014

SHEET No: 6



NOTES

1. FENCING ON SPILLWAY ARE IN 10-FOOT PANELS. BRIDGE CROSSING TO BE LOCATED AT PANEL INTERSECTION (COMMON FENCEPOST). CROSSING LOCATED APPROXIMATELY 90 FEET FROM SPILLWAY WINGWALL.
2. CONTRACTOR TO SALVAGE 2 FENCING PANELS ON EACH SIDE OF CROSSING FOR RE-INSTALLATION. REMOVE COMMON FENCEPOST AND TOP RAIL FOR BRIDGE INSTALLATION.
3. CONTRACTOR TO INSTALL CONCRETE BASES AND ANCHOR FENCE POSTS FOR FENCING. RE-INSTALL SALVAGED FENCING PANELS, CONNECTING (FIELD WELD OR APPROVED ALTERNATE CONNECTION TYPE) TO ANCHOR POST.
4. EQUESTRIAN BRIDGE TO HAVE A 75-FOOT SPAN, 10-FOOT WIDTH, 66-INCH HEIGHT FROM DECKING TO TOP CHORD, DECK TYPE TO BE IPE (HARDWOOD), MULTIPLE WOODEN RUB RAILS ALONG THE SIDE FOR ADDED EQUESTRIAN SAFETY. CONTRACTOR TO USE CONTECH CONTINENTAL BRIDGE OR APPROVED EQUAL.
5. CONTRACTOR TO INSTALL CONTECH PRECAST ABUTMENT SYSTEM OR APPROVED EQUAL.

LEGEND

EXISTING/PROPOSED

- ST 8" — STORM SEWER
- E — ELECTRIC LINE
- W 2" — WATER MAIN
- 990 — 990 — ELEVATION

0 20 FEET

CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES
ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034

SITE PLAN

EQUESTRIAN BRIDGE PROJECT FOR:

BRUSHY CREEK STATE PARK

WEBSTER COUNTY, IOWA

NO.	BY / DATE	REVISION

DRAWN BY:

PROJECT NUMBER: 13-02-94-03

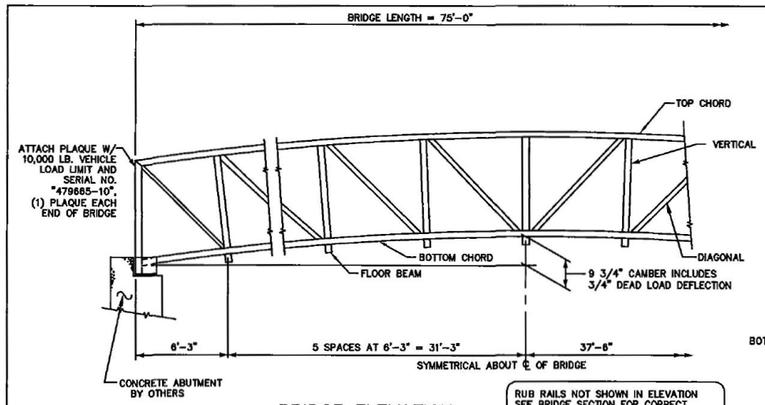
CHK'D BY:

DATE: 3/27/2014

SHEET No: 7

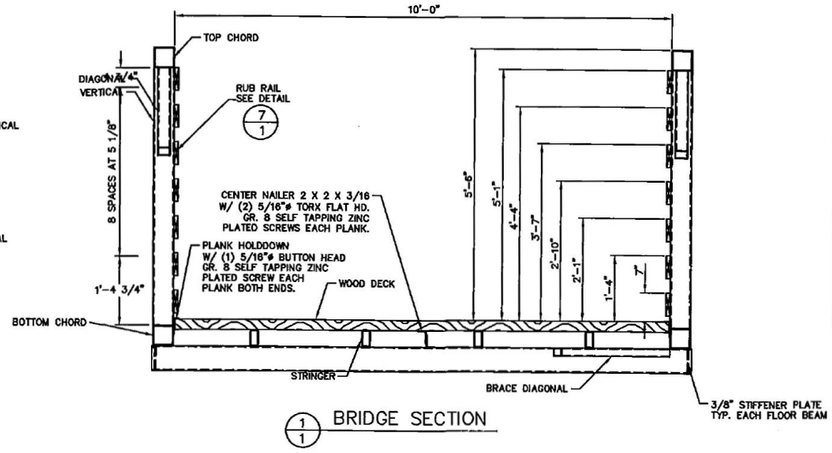
NOTES

1. THESE BRIDGE PLANS ARE PRELIMINARY ONLY, NOT FOR CONSTRUCTION. CONTRACTOR TO OBTAIN ACTUAL BRIDGE DESIGN PLANS AND INFORMATION FROM MANUFACTURER.

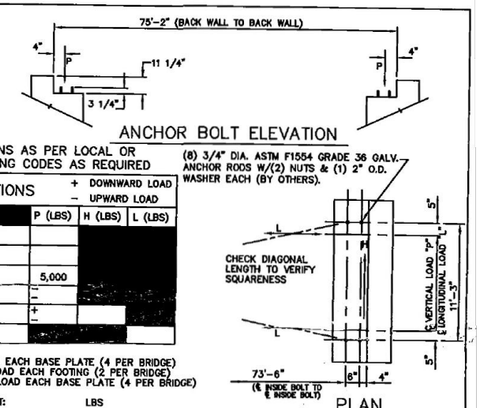


BRIDGE ELEVATION

RUB RAILS NOT SHOWN IN ELEVATION SEE BRIDGE SECTION FOR CORRECT NUMBER & LOCATION.



1/1 BRIDGE SECTION



COMBINE REACTIONS AS PER LOCAL OR GOVERNING BUILDING CODES AS REQUIRED

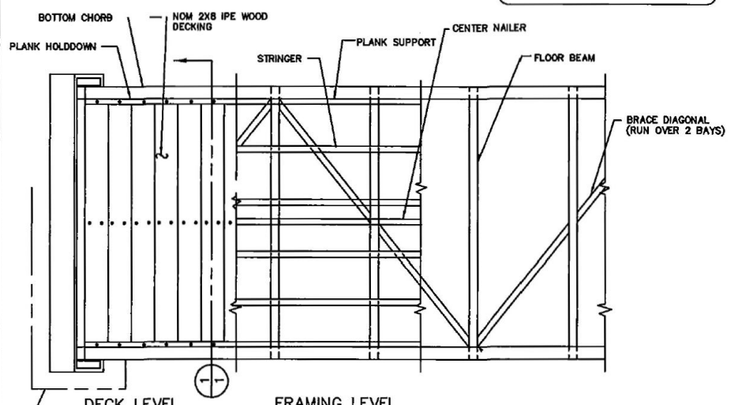
BRIDGE REACTIONS	+ DOWNWARD LOAD – UPWARD LOAD		
	P (LBS)	H (LBS)	L (LBS)
DEAD LOAD			
UNIFORM LIVE LOAD			
VEHICLE LOAD	5,000		
WIND UPLIFT 20 PSF WINDWARD/LEEWARD	±		
WIND	±		
THERMAL			

(8) 3/4" DIA. ASTM F1554 GRADE 36 GALV. ANCHOR RODS W/(2) NUTS & (1) 2" O.D. WASHER EACH (BY OTHERS).

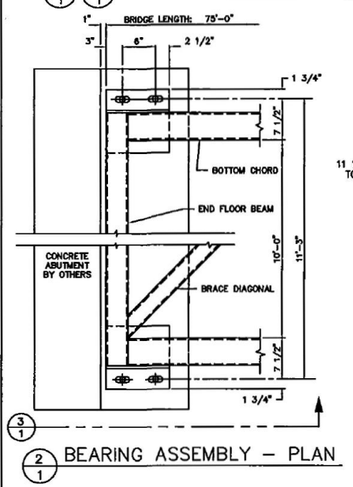
"P" – VERTICAL LOAD EACH BASE PLATE (4 PER BRIDGE)
"H" – HORIZONTAL LOAD EACH FOOTING (2 PER BRIDGE)
"L" – LONGITUDINAL LOAD EACH BASE PLATE (4 PER BRIDGE)

BRIDGE LIFTING WEIGHT: LBS

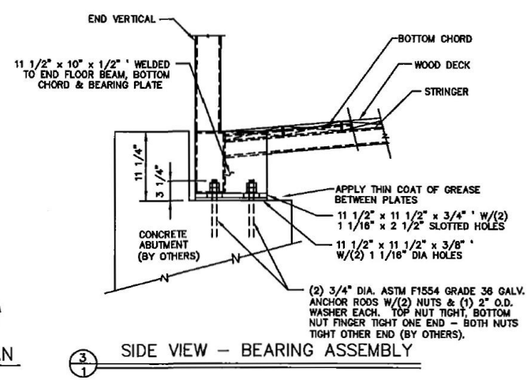
PLAN



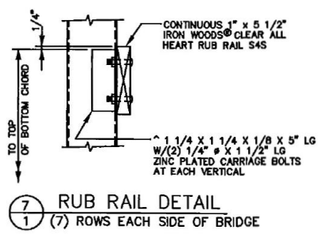
BRIDGE PLAN



BEARING ASSEMBLY – PLAN



SIDE VIEW – BEARING ASSEMBLY



7/1 RUB RAIL DETAIL
(7) ROWS EACH SIDE OF BRIDGE

PRELIMINARY ONLY
NOT FOR CONSTRUCTION

GENERAL NOTES

1. DESIGN STRESSES ARE IN ACCORDANCE WITH THE MANUAL OF STEEL CONSTRUCTION FOR ALLOWABLE STRESS DESIGN AS ADOPTED BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), LATEST EDITION.
2. BRIDGE MEMBERS ARE FABRICATED FROM HIGH STRENGTH, LOW ALLOY, ENHANCED ATMOSPHERIC CORROSION RESISTANT ASTM A847 COLD-FORMED WELDED SQUARE AND RECTANGULAR TUBING, AND ASTM A588, ASTM A606, OR ASTM A242 PLATE AND STRUCTURAL SHAPES (Fy=50,000 PSI).
3. BRIDGE DECKING NOMINAL 2X8 IPE WOOD DECKING.
4. THE GAS METAL ARC WELDING PROCESS OR FLUX CORED ARC WELDING PROCESS WILL BE USED.
5. ALL TOP AND BOTTOM CHORD SHOP SPLICES TO BE COMPLETE PENETRATION TYPE WELDS. WELD BETWEEN TOP CHORD AND END VERTICAL SHALL BE COMPLETE PENETRATION TYPE WELDS ON BOTH SIDES WITH A PARTIAL PENETRATION GROOVE WELD ON THE TOP SIDE AND A FILLET WELD ON THE BOTTOM SIDE.
6. UNLESS OTHERWISE NOTED, WELDED CONNECTIONS SHALL BE FILLET WELDS (OR HAVE THE EFFECTIVE THROAT OF A FILLET WELD) OF A SIZE EQUAL TO THE THICKNESS OF THE LIGHTEST GAGE MEMBER IN THE CONNECTION. WELDS SHALL BE APPLIED AS FOLLOWS:
   A. BOTH ENDS OF VERTICALS, DIAGONALS, AND FLOOR BEAMS SHALL BE WELDED ALL AROUND.
   B. BRACE DIAGONALS WILL BE WELDED ALL AROUND.
   C. BOTTOM OF STRINGERS WILL BE STITCH WELDED TO TOP OF FLOOR BEAMS.
   D. MISCELLANEOUS NON-STRUCTURAL MEMBERS WILL BE STITCH WELDED TO THEIR SUPPORTING MEMBERS.
7. BRIDGE DESIGN WAS ONLY BASED ON COMBINATIONS OF THE FOLLOWING LOADS WHICH WILL PRODUCE MAXIMUM CRITICAL MEMBER STRESSES.
   A. 85 PSF UNIFORM LIVE LOADING ON THE FULL DECK AREA OR ONE 10,000 POUND VEHICLE LOAD. THE UNIFORM LIVE LOAD SHALL BE REDUCED TO 68 PSF FOR THE DESIGN OF THE MAIN TRUSS MEMBERS ONLY. THE VEHICLE LOAD SHALL BE DISTRIBUTED AS A FOUR-WHEEL VEHICLE WITH 60% OF THE LOAD ON THE REAR WHEELS. THE WHEEL TRACK WIDTH OF THE VEHICLE SHALL BE 6'-0" AND THE WHEEL BASE SHALL BE 10'-0". THE VEHICLE SHALL BE POSITIONED SO AS TO PRODUCE THE MAXIMUM STRESS IN EACH MEMBER, INCLUDING DECKING.
   B. 25 PSF WIND LOAD ON THE FULL HEIGHT OF THE BRIDGE, AS IF ENCLOSED.
   C. 20 PSF UPWARD FORCE APPLIED AT THE WINDWARD QUARTER POINT OF THE TRANSVERSE BRIDGE WIDTH (AASHTO 3.15.3).
8. CLEANING: ALL EXPOSED SURFACES OF STEEL SHALL BE CLEANED IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL SURFACES PREPARATION SPECIFICATIONS NO. 7 BRUSH-OFF BLAST CLEANING. SSPC-SP7-LATEST EDITION.

CAUTION:

WE ARE PROVIDING A WOOD DECK ON THIS STRUCTURE IN ACCORDANCE WITH THE SPECIFICATIONS AND/OR THE CONTRACT DOCUMENTS. BE AWARE THAT MOST PEDESTRIAN BRIDGE LIABILITY CLAIMS ARE STATISTICALLY SLIP AND FALL CLAIMS. IT IS THE OWNER'S RESPONSIBILITY TO KEEP THE DECK FREE FROM SLIP OR TRIP HAZARDS DUE TO CUPPING, SPLITS, GAPS AND SMOOTH SURFACES.

CONTECH® BRIDGE SOLUTIONS INC.
ALEXANDRIA, MN 320-852-7500

CONTINENTAL BRIDGE

REV. BY:	DATE:	LEVEL:	REVISION:

75'-0" x 10'-0"
BRUSHY CREEK STATE PARK
EQUESTRIAN BRIDGE
FORT DODGE, IA

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF

DATE:

REG. NO.

DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED BY:
	DJB		

DATE: 3/26/14 | SHEET NO. 1 OF 1 | JOB # 479665

CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES
ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034

EQUESTRIAN BRIDGE PLAN

EQUESTRIAN BRIDGE PROJECT FOR:

BRUSHY CREEK STATE PARK

WEBSTER COUNTY, IOWA

NO.	BY	DATE	REVISION

DRAWN BY: | PROJECT NUMBER: 13-02-94-03

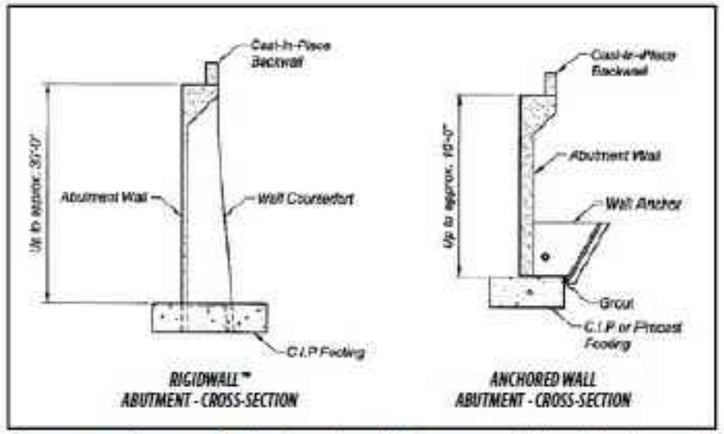
CHK'D BY: | DATE: 3/27/2014

SHEET No: 8

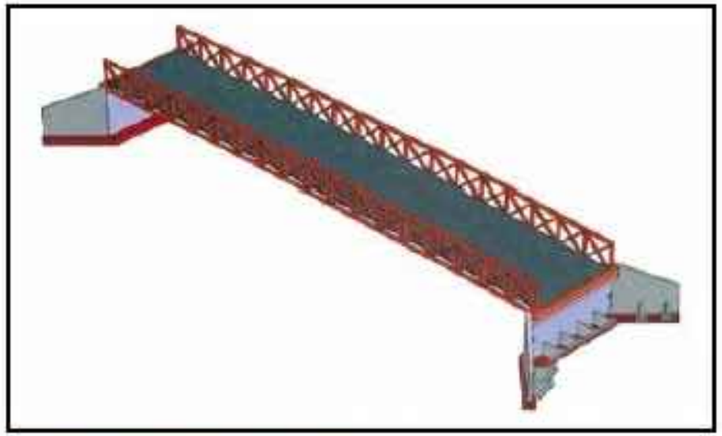
CONTECH®
ENGINEERED SOLUTIONS

Precast Abutment System

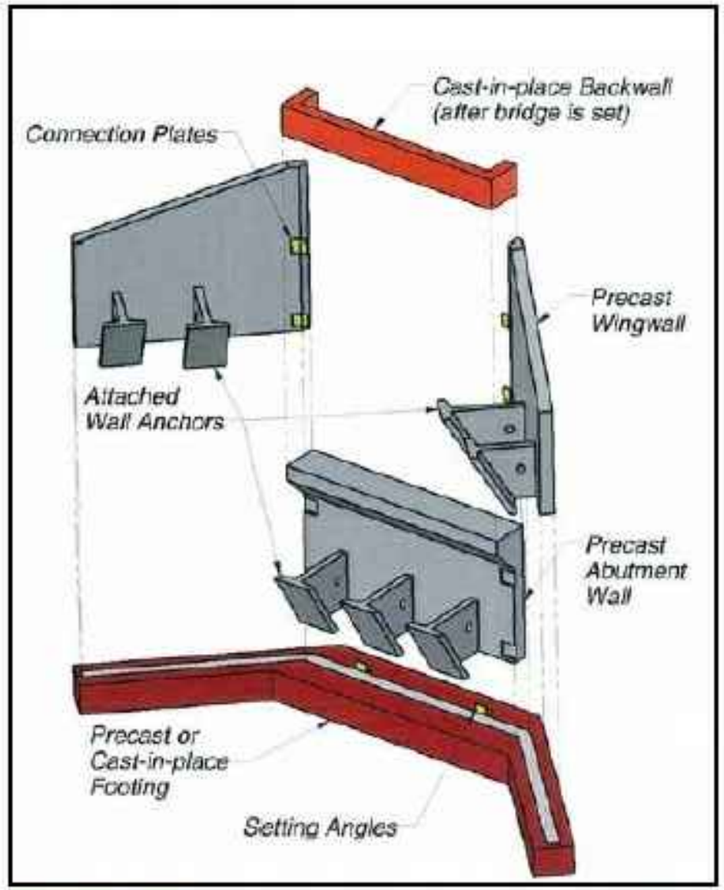
- Rapid installation
- Reduced on-site construction time means reduced traffic delays and detours
- Precast anchored wall system reduces excavation area
- Easy use of decorative finishes such as formliners
- Complete bridge solution from design support to material installation
- Patented system
- Extensive technical support



Cross sections of abutment wall types – Wall style depends on required abutment height



Precast Abutment with Truss – Can be used in conjunction with vehicular or pedestrian truss structures



Assembly View – Precast wall pieces are assembled on the footing and then typically backfilled prior to setting the truss superstructure

NOTES

1. THESE BRIDGE PLANS ARE PRELIMINARY ONLY, NOT FOR CONSTRUCTION. CONTRACTOR TO OBTAIN ACTUAL BRIDGE ABUTMENT SYSTEM PLANS AND INFORMATION FROM MANUFACTURER.

CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES
ENGINEERING SERVICES - WALLACE BUILING
502 E. 9TH ST., DES MOINES, IA 50319-0034

PRECAST ABUTMENT SYSTEM

EQUESTRIAN BRIDGE PROJECT FOR:

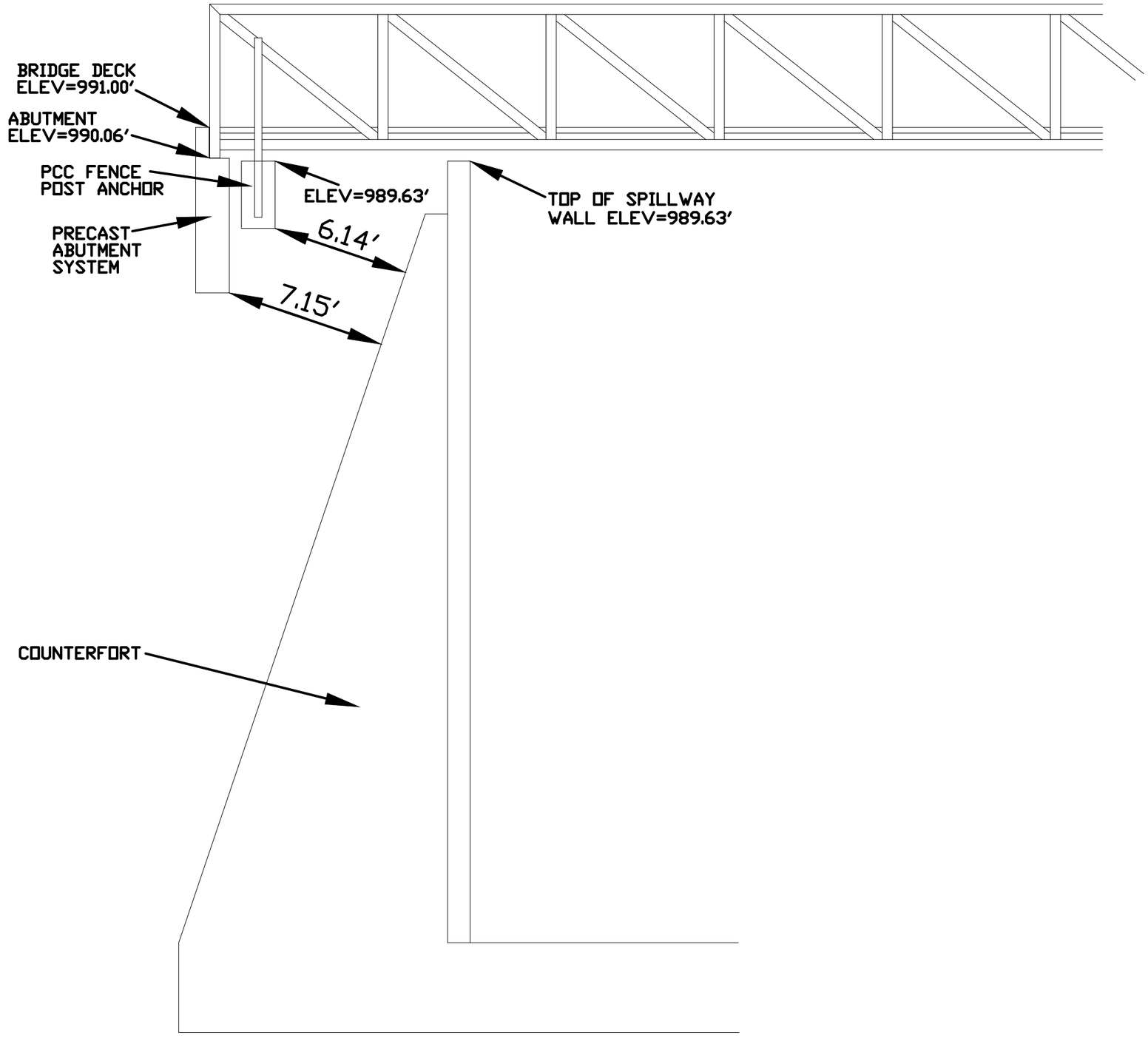
BRUSHY CREEK STATE PARK

WEBSTER COUNTY, IOWA

NO.	BY DATE	REVISION

DRAWN BY:
PROJECT NUMBER: 13-02-94-03
CHK'D BY:
DATE: 3/27/2014

SHEET No: 9



WEST SIDE OF SPILLWAY CROSS-SECTION DETAIL

CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILING
502 E. 9TH ST., DES MOINES, IA 50319-0034

SECTION W/COUNTERFORTS

EQUESTRIAN BRIDGE PROJECT FOR:

BRUSHY CREEK STATE PARK

WEBSTER COUNTY, IOWA

NO.	BY DATE	REVISION

DRAWN BY:

PROJECT NUMBER: 13-02-94-03

CHK'D BY:

DATE: 3/27/2014

SHEET No: 10